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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,561	09/22/2003	Vladimir Abramov	20030052.ORI	9970

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EXAMINER

LEWIS, TISHA D

ART UNIT PAPER NUMBER

3681

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/667,561

Applicant(s)

ABRAMOV, VLADIMIR

Examiner

TISHA D. LEWIS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

The following is a first action on the merits of application serial no. 10/667,561 filed on September 22, 2003.

#### ***Priority***

If applicant desires priority under 35 U.S.C. 119(e) based upon a previously filed application, specific reference to the earlier filed application must be made in the instant application. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet.

#### ***Information Disclosure Statement***

The information disclosure statement filed on September 22, 2003 has been acknowledged.

#### ***Specification***

The disclosure is objected to because of the following informalities:

-On page 9, line 11, before "2", "a" should be changed to --is--.

Appropriate correction is required.

#### ***Claim Objections***

Claims 1, 3, 8, 16, 19 and 20 are objected to because of the following informalities:

-In claim 1, line 2, one or two of the terms "in of a" should be deleted.

Appropriate correction is required.

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-In claim 3, line 8, --the-- should be inserted between "by and number" and "between and next".

-In claim 8, "differential" is misspelled.

-In claim 16, line 3, "gearset" should be changed to --gearsets--.

-In claim 19, line 3, the second occurrence of "gearset" should be changed to --gearsets--.

-In claim 20, line 9, "process" should be changed to --method--.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the separation in the degree of difference" in line 2. There is insufficient antecedent basis for this limitation in the claim.

As to claim 2, the limitation of having a degree of difference for all gearset ratios being the same is indefinite because it is unclear as to how the degree of difference can be the same for all the ratios if the amount/number of gearsets between each shaft is different.

Claim 4 recites the limitation "the gearset ratio values" in line 2. There is insufficient antecedent basis for this limitation in the claim.

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Claim 13 recites the limitation "the split shafts" in line 2. There is insufficient antecedent basis for this limitation in the claim.

As to claims 14-19, the term "pair" used as a description beside the number of shafts of the gearbox is indefinite because it is unclear as to if applicant is claiming that the gearbox has i.e., 4 shafts of the 5 shafts or 4 pairs of shafts which equals 8 shafts of the 5 shafts, examiner suggest applicant clarify or delete the term "pair" from the limitations.

Claim 20 recites the limitation "the degree of difference" and "the geometric sequence" in line 6. There is insufficient antecedent basis for this limitation in the claim.

As to claim 20, the limitation "the remainder", in line 8, is indefinite because it is unclear as to what the "remainder" is referring to.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being unpatentable by Razzacki ('397). Razzacki discloses a transmission having a plurality of shafts (Figure 2) with a gear forming a gearset between the shafts and being sized and varied by degree in a common ratio in a geometric sequence wherein a degree of difference is 1 which is the same for each gearset.

Claims 1, 2, 4, 7-19 are rejected under 35 U.S.C. 102(b) as being unpatentable by Horsch ('280). As to claims 1 and 2, Horsch discloses a transmission having a plurality of shafts (input, output, S1, S2, C, etc.) with a gear forming a gearset between

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the shafts and being sized and varied by degrees in a common ratio in a geometric sequence wherein a degree of difference is 1 which is the same for each gearset.

As to claim 4, Horsch discloses an input to output ratio of 1 when direct driving between the input to output is selected.

As to claim 7, Horsch discloses a reverse pinion (23rev) engaging a shaft (reverse shaft) for providing one or more reverse speeds.

As to claims 8 and 11, Horsch discloses an output shaft having outward extending ends from the transmission for connecting to other objects which could be a differential.

As to claims 9 and 10, Horsch discloses frame members separating different sections between the gearsets.

As to claim 12, Horsch discloses the gears having teeth on opposite sides wherein if the shafts were turned upside down, the teeth would still engage teeth on other shafts.

As to claim 13, Horsch discloses the shafts having clutches to connect gears to shafts which connects other shafts by meshing of the gears.

As to claims 14-19, Horsch discloses at least 5 shafts having at least 6 gearsets providing 27 forward and 9 reverse speeds wherein the gearsets can be combined into any set of gearsets as claimed by applicant since applicant does not limit how or which gearsets or sets of gearsets are connected to a particular shaft of the plurality of shafts.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horsch in view of Herlitzek ('519). Horsch discloses a transmission as described above, but does not disclose a join gear for joining two shafts.

Herlitzek discloses a transmission having a longitudinal arrangement wherein a join gear (5) or plurality of join gears (dashed lines) mounted on a shaft (via 2, modification shaft), are used to join gears between two shafts.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide join gears mounted on a shaft in the transmission of Horsch in view of Herlitzek to provide a longitudinal arrangement or reduce the width of the transmission and still provide the ratios between multiple shafts.

***Allowable Subject Matter***

Claims 20-21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Herlitzek ('935), Sisson et al ('714), Bulgrien ('132), Ahluwalia et al ('145), Hegerath et al ('123), McAskill ('978) and ('475), Rodeghiero et al ('702), Hasegawa et al ('269), Sherman ('892), Krause et al ('639), Whalen ('246), White ('443), Jameson et al ('391) and Stodt ('127) are cited as having gearboxes with varying degrees of gears between a plurality of shafts to form a geometric sequence which meet the limitations of at least claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TISHA D. LEWIS whose telephone number is 703-305-0921. The examiner can normally be reached on M-Thur 8 AM TO 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHARLES A. MARMOR can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tdl  
November 29, 2004

  
TISHA LEWIS  
PRIMARY EXAMINER  
Art 3681 11/29/04